UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,233	08/18/2003	June-Sco Lee	P56843	2987

7590   10/11/2007

Robert E. Bushnell
Suite 300
1522 K Street, N.W.
Washington, DC 20005

EXAMINER
LY, NGHI H

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
10/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/642,233	LEE, JUNE-SEO
	Examiner	Art Unit	
	Nghi H. Ly	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>08 August 2007</u>.

2a) ☐ This action is **FINAL**.　　　　2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-10 and 12-17* is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-10 and 12-17* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a) ☒ All　b) ☐ Some *　c) ☐ None of:

　　　1. ☒ Certified copies of the priority documents have been received.

　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1, 4, 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Shimbori (US 6,591,101) in view of Oshigiri (US 2001/0014584A1) and further in

view of Hofmann (US 6,418,372).

Regarding claims 1, 4, 6 and 9, Shimbori teaches a wireless network system

capable of tracking a location of a mobile station (see Abstract) comprising: a visitor

location register in which location information relating to a wireless network location of a

mobile station is stored (see column 2, lines 17-27) and confirming a location of the

mobile station and updating the location information stored in said visitor location

register when the mobile station keeps up an idle state during a certain period (see

column 10, lines 23-42 and column 16, line 63 to column 17, line 10).

Shimbori does not specifically disclose a base station controller storing location

information relating to a wireless network location of a mobile station in said visitor

location register when the mobile station registers its location with said wireless

network.

Oshigiri teaches a base station controller storing location information relating to a

wireless network location of a mobile station in said visitor location register when the

mobile station registers its location with said wireless network (see [0027] and claim 15,

step c).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide the teaching of Oshigiri into the system of

Shimbori in order to provide a network system which is capable of making it possible to

use most of radio system units without modification (see Oshigiri, [0017]).

The combination of Shimbori and Oshigiri does not specifically disclose

confirming a location of the mobile station by dummy paging.

Hofmann teaches confirming a location of the mobile station by dummy paging

(see fig.5 and column 7, lines 50-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide the teaching of Hofmann into the system of

Shimbori and Oshigiri provide a low cost, easy-to-use system helps people find their

way around public or private places (see Hofmann, Abstract).

3.   Claims 2, 3, 8, 12 and 13 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Shimbori (US 6,591,101) in view of Oshigiri (US 2001/0014584A1)

and further in view of Hofmann (US 6,418,372), Stephens (US 6,256,503) and Fitch et

al (US 6,424,840).

Regarding claims 2, 3, 8 and 12, Shimbori teaches at least one repeater

dispersedly installed in sector zones of a private base transceiver station (see Abstract),

a visitor location register in which location information relating to a private wireless

network location of a mobile station is stored (see column 2, lines 17-27) and confirming

a location of the mobile station and updating the location information stored in said

visitor location register when the mobile station keeps up an idle state during a certain

period (see column 10, lines 23-42 and column 16, line 63 to column 17, line 10).

Shimbori does not specifically disclose a private base station controller storing

location information relating to a private wireless network location of a mobile station in

said visitor location register when the mobile station registers its location with said

private wireless network.

Oshigiri teaches a private base station controller storing location information

relating to a private wireless network location of a mobile station in said visitor location

register when the mobile station registers its location with said private wireless network

(see Oshigiri, [0027] and claim 15, step c).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide the teaching of Oshigiri into the system of

Shimbori in order to provide a network system which is capable of making it possible to

use most of radio system units without modification (see Oshigiri, [0017]).

Shimbori and Oshigiri do not specifically disclose confirming a location of the

mobile station by dummy paging.

Hofmann teaches confirming a location of the mobile station by dummy paging

(see fig.5 and column 7, lines 50-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide the teaching of Hofmann into the system of

Shimbori and Oshigiri provide a low cost, easy-to-use system helps people find their way around public or private places (see Hofmann, Abstract).

The combination of Shimbori, Oshigiri and Hofmann does not specifically disclose a server inquiring about the location information of the mobile station stored in said visitor location register.

Stephens teaches a server inquiring about the location information of the mobile station stored in said visitor location register (see column13, lines 40-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Stephens into the system of Shimbori, Oshigiri and Hofmann in order to provide an improved wireless communications network that includes restricted user terminal areas based on the location of an originator (see Stephens, column 2, lines 52-55).

The combination of Shimbori, Oshigiri, Hofmann and Stephens does not specifically disclose the location information including at least one of a private base transceiver station number, a sector number and a repeater number.

Fitch teaches the location information includes at least one of a base transceiver station number, a sector number and a repeater number (see column 7, lines 8-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Fitch into the system of Shimbori, Oshigiri, Hofmann and Stephens in order to express the user's location in term of network topology (see Fitch, column 7, lines 10-12).

Regarding claim 13, the combination of Shimbori, Oshigiri, Hofmann, Stephens

and Fitch further teaches transmitting the location information received from said private

base station controller to the client (see Oshigiri, [0027]), and receiving the location

information from said server and providing a user with a location and state of the

specific mobile station according to the received location information (see Oshigiri,

[0027]).

4.   Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Shimbori (US 6,591,101) in view of Oshigiri (US 2001/0014584A1) and further in view of

Hofmann (US 6,418,372), Stephens (US 6,256,503) and Fitch et al (US 6,424,840) and

further in view of Karr et al (US 6,952,181).

Regarding claims 15, 16 and 17, the combination of Shimbori, Oshigiri, Hofmann,

Stephens and Fitch teaches claims 2, 3, 8 and 12. The combination of Shimbori,

Oshigiri, Hofmann, Stephens and Fitch does not specifically disclose the server being

connected to said base station controller through a local area network and the plurality

of repeaters being connected to the private base transceiver station, with the private

base transceiver station being connected to said private base station controller.

Karr teaches the server being connected to said base station controller through a

local area network and the plurality of repeaters being connected to the private base

transceiver station, with the private base transceiver station being connected to said

private base station controller (see fig.2, fig.3, fig.4, fig.6 and fig.13).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide the teaching of Karr into the system of Shimbori,

Oshigiri, Hofmann, Stephens and Fitch so that a location is disclosed for wireless

telecommunication infrastructures (see Karr, Abstract).

5.   Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Shimbori (US 6,591,101) in view of Oshigiri (US 2001/0014584A1) and further in view of

Hofmann (US 6,418,372) and Fitch et al (US 6,424,840).

Regarding claims 5 and 7, the combination of Shimbori, Oshigiri and Hofmann

teaches claims 4 and 6. The combination of Shimbori, Oshigiri and Hofmann does not

specifically disclose the location information includes at least one of a base transceiver

station number, a sector number and a repeater number.

Fitch teaches the location information includes at least one of a base transceiver

station number, a sector number and a repeater number (see column 7, lines 8-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide the teaching of Fitch into the system of

Shimbori, Oshigiri and Hofmann in order to express the user's location in term of

network topology (see Fitch, column 7, lines 10-12).

6.   Claims 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Shimbori (US 6,591,101) in view of Garceran et al (US 6,522,888) and further in

view of Fitch et al (US 6,424,840) and Giniger et al (US 6,199,045) and Hofmann (US 6,418,372).

Regarding claim 10, Shimbori teaches a method for tracking a location of a subscriber (see Abstract), comprising: storing location information when a mobile station executes location registration (see column 2, lines 17-27) and confirming a location and state of a mobile station and updating its location information of said visitor location register when the relevant mobile station keeps up an idle state during a certain period, and then transmitting the updated location information to said server (see column 10, lines 23-42 and column 16, line 63 to column 17, line 10). Shimbori does not specifically disclose periodically transmitting a message requesting an inquiry about a mobile station subscriber's state to a server.

Garceran teaches periodically transmitting a message requesting an inquiry about a mobile station subscriber's state to a server (see column 3, lines 34-37).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Garceran into the system of Shimbori in order to determine coverage in a wireless communication system (see Garceran, Abstract).

The combination of Shimbori and Garceran does not specifically disclose the location information including a private base transceiver station number, a sector number and a repeater number with respect to the relevant mobile station.

Fitch teaches the location information including a private base transceiver station number, a sector number and a repeater number with respect to the relevant mobile

station (see column 7, lines 8-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Fitch into the system of Shimbori and Garceran in order to express the user's location in term of network topology (see Fitch, column 7, lines 10-12).

The combination of Shimbori, Garceran and Fitch does not specifically disclose requesting a private base station controller to inquire out location information stored in a visitor location register in response to the inquiry message, transmitting location information stored in a visitor location register to a server in response to the server's request.

Giniger teaches requesting a private base station controller to inquire out location information stored in a visitor location register in response to the inquiry message, transmitting location information stored in a visitor location register to a server in response to the server's request (see column11, lines 59-61, column 12, lines 32-38, the teaching of Giniger inherently teaches "a visitor location register" since the mobile unit 103 can roam from one network to another network and each network inherently includes "a visitor location register") and transmitting the location information received from said private base station controller to the client and receiving the location information from said server and providing a user with a location and state of a mobile station according to the received location information (see Astract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Giniger into the system of

Shimbori, Garceran and Fitch in order to provide information to the users, which

information is based upon the user's position and tailored to the user interests (see

Giniger, column 1, lines 6-10).

The combination of Shimbori, Garceran, Fitch and Giniger does not specifically

disclose confirming a location of the mobile station by dummy paging.

Hofmann teaches confirming a location of the mobile station by dummy paging

(see fig.5 and column 7, lines 50-53).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide the teaching of Hofmann into the system of

Shimbori, Garceran, Fitch and Giniger provide a low cost, easy-to-use system helps

people find their way around public or private places (see Hofmann, Abstract).

Regarding claim 14, the combination of Shimbori, Garceran, Fitch, Giniger and

Hofmann further teaches transmitting location information stored in said visitor location

register directly to the server, remote from the visitor location register, in response to the

server's request (see Giniger, column11, lines 59-61, column 12, lines 32-38, the

teaching of Giniger inherently teaches "a visitor location register" since the mobile unit

103 can roam from one network to another network and each network inherently

includes "a visitor location register").

Response to Arguments

7.   **a**. Applicant's arguments with respect to claims 1-10 and12-17 have been

considered but are moot in view of the new ground(s) of rejection.

b. Applicant's arguments filed 08/08/07 have been fully considered but they are not persuasive.

On page 14 of applicant's remarks, applicant argues that Shimbori does not disclose a visitor location register forming a part of a wireless network system in which location information relating to a wireless network location of a mobile station is stored.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In this case, Oshigiri (not Shimbori) does indeed teach a visitor location register forming a part of a wireless network system in which location information relating to a wireless network location of a mobile station is stored (see [0027] and claim 15, step c) and the combination of the cited references does indeed teach applicant's invention.

On page 14 of applicant's remarks, applicant argues that Shimbori does not teach location information is updated when the mobile station keep up an idle state for a certain period of time.

In response, Shimbori does indeed teach confirming a location of a mobile station and updating the location information stored in a visitor location register when the mobile station maintains an idle state for a certain period of time (see column 2, lines 17-27, where Shimbori teaches registration, and see column 10, lines 23-42, and column 16, line 63 to column 17, line 10, where Shimbori teaches registration time, and

visitor mobile station). In addition, applicant's attention is directed to the teaching of Shimbori above.

On page 16 of applicant's remarks, applicant argues that Oshirigi does not teach transmission to a client of location information received from a private base station controller.

In response, Oshirigi does indeed teach transmission to a client of location information received from a private base station controller (see Oshigiri, [0027] and claim 15).

On page 17 of applicant's remarks, applicant argues that Karr does not teach the combination of server, local area network, base station controller and private base transceiver station.

In response, the combination of Shimbori, Oshigiri, Hofmann, Fitch and Karr does indeed teach the combination of server, local area network, base station controller and private base transceiver station. In addition, applicant's attention is directed to the teaching of Shimbori, Oshigiri, Hofmann, Fitch and Karr above.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 9:30am-8:00pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nghi H. Ly